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THE BOROUGH OF LITTLESTOWN

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RECEIVED
CERCLA REMEDIAL ENFORCEMENT SECTION
APR 25 1988
EPA-Region III

April 15, 1988

ORIGINAL (Red)

Mr. Michael Towle
CERCLA Remedial Enforcement Section
3HW12 EPA
841 Chesnut Street
Philadelphia, PA 19107

Re: Keystone Sanitation
Superfund Remedial Site
Draft Remedial Investigation
Work Plan

Dear Mr. Towle:

The Littlestown Borough Council appreciates this opportunity to express our concerns to you regarding the above referenced remedial investigation project. Based on our knowledge with the Keystone Landfill situation, current public declarations, and future work proposed, we feel our Borough is being given inadequate consideration. Although the potential threat to our water supplies may be minimal, we feel the responsibility for evaluating this clearly lies with your agency and should be addressed in your study. We have asked our geological consultant, R. E. Wright Associates, Inc. (REWAI), to review this Remedial Investigation/Feasibility Study (RI/FS) Work Plan and Field Operations Plan (FOP) and to prepare appropriate comments, as follows.

BACKGROUND

Littlestown Borough obtains its entire supply of potable water from groundwater produced from wells located within a three-mile radius of the Keystone Landfill (KLF). This adds over 2,500 people drinking water from within this radius to the 1,700 people which were mentioned in the RI/FS Work Plan. In addition, the Borough provides water to schools which serve this region, which adds an additional population of children to this number.

Significant growth is projected for the Borough in the coming years, which will increase necessary groundwater withdrawals. The Borough is currently embarking on a groundwater exploration and development program to meet these anticipated needs, and is gravely concerned over the potential impact which KLF poses to existing and future water supplies.

The Borough's production wells predominantly draw from fractured carbonate rocks (Conestoga Formation) located northeast of KLF. The Marburg Formation, the aquifer underlying KLF, is in contact with the Harpers Formation approximately three-quarters of a mile to the northwest. Due to the nature of these aquifers, this contact does not pose a boundary to groundwater flow. This aquifer system has been thrust onto the carbonate rock aquifer (Conestoga Formation), which the Borough primarily draws from, along a southeastward-dipping thrust fault.

KLF is located in a recharge area of significantly higher elevation [780 feet mean sea level (msl)] than the carbonate rocks from which the Borough draws water (approximately 600 feet msl). It is indicated in the RI/FS Work Plan that surface runoff and groundwater flow occurs in a northerly direction from KLF (Figures 3-3 and 3-6). As has been correctly indicated in the RI/FS Work Plan, fracture flow is the dominant means by which groundwater and associated contaminants may move through these bedrock aquifers. It has also been determined that both inorganic and organic contamination was detected in groundwater from monitoring wells 4, 5, and 7, all of which are located on the north side of KLF, towards Littlestown (Tables 3-4 and 3-5, Figure 3-7). Contaminants found on-site include soluble toxic metals and heavier-than-water organic compounds.

PROBLEM STATEMENT

As indicated by the data presented in the RI/FS Work Plan, there is a definite potential for northerly migration of toxic contaminants. Groundwater flow in deep fractures to the north of the landfill are potential routes for contaminant migration, conceivably across surface watershed and stream boundaries. This is addressed south of KLF in Maryland and must be addressed to the north as well.

Surface water runoff to the north, from both storm water and groundwater discharges in seeps and springs, can carry dissolved contaminants and contaminants adsorbed on sediment, north onto the carbonate rock aquifer which constitutes the Town's primary water supply.

The Borough requests that the groundwater contamination potential, north of the landfill area, be more fully evaluated than proposed in the RI/FS Work Plan.

PROPOSED AMENDMENTS

We formally request the following four amendments:

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1. Proposed Monitoring Well Cluster F (MD-F, Figure 5-2 of Field Operations Plan-FOP).

   It is stated on pages 5-30 and 5-33 of the RI/FS Work Plan that "Cluster F is located to provide lithologic and hydrogeologic data near a northerly-trending fracture trace northwest of the site; and to provide background lithologic and groundwater quality information."

   In view of the hydrogeology of the area and our concerns, Cluster F must be located directly on the northerly-trending fracture trace and not "near it." In addition, this well cluster is located downgradient from an area of known contamination, and can, therefore, not be considered to provide "background" information.

2. Additional Monitoring Well Cluster

   In order to address the lack of information which would be provided in the RI/FS Work Plan and FOP, with respect to hydrogeologic boundaries to the north of the landfill, an additional monitoring well cluster is required. This cluster should be located in the southwest to northeast-trending valley, northwest of MW-F, and should be constructed with shallow, intermediate, and deep wells. This would serve to evaluate the fracturing continuity across the Marburg/Harpers Formation contact and the hydrology of this valley with respect to groundwater flow directions.

3. Additional Monitoring Well

   In order to provide additional background information and to evaluate the potential of contaminant migration into the carbonate rocks from which Littlestown draws, an additional monitoring well is necessary. This well should be located southeast of and adjacent to the Conestoga/Harpers Formation contact. This would allow determination of the dip angle of this contact and the estimated depth at which the carbonate rocks may underlie the Keystone Landfill site. This would also provide valuable hydrologic information regarding this contact, potential flow direction across it, and background water quality data.

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4. Inorganic Contaminants Evaluation

It is apparent from the RI/FS Work Plan and the March 28, 1988 presentation, that organic contaminants are a primary concern of the investigation. However, inorganic contaminants may travel rapidly over great distances, either dissolved or adsorbed, on sediment in surface runoff. Should contaminants be found in stream samples flowing north from KLF, the potential for such inorganic contamination should be fully evaluated with respect to the carbonate rock aquifer over which the streams eventually flow.

COMMENT

Our experience indicates that fracture intensity, even on photogeologic fracture traces, has extreme horizontal variability in this aquifer. Apparent fracture permeability may vary by an order of magnitude over distances of smaller than 10 feet. For this reason, we request that the above referenced monitoring well cluster locations be precisely located using surface geophysical techniques (seismic refraction, earth resistivity, and electromagnetic terrain conductivity). Without this technical validation, doubt is thrown on the validity of information from the monitoring well clusters.

CLOSING STATEMENT

We are gravely concerned about the Keystone Landfill situation and the apparent secondary status which the potential threat to Littlestown Borough is given in this evaluation. We pledge to cooperate with the United States Environmental Protection Agency (EPA) in their endeavors in this investigation, and can provide information regarding our production wells and production history, groundwater withdrawals, and proposed well sites to your agency to aid in your investigation. We may also be able to work out a cooperative arrangement for data collection in order to provide the information which we feel is necessary. We request that our recommendations proposed herein be fully considered and implemented in the RI/FS Work Plan and FOP. In addition, we request that a formal reply to this letter be

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provided prior to implementation of the work scope, in order that we may be kept fully apprised of your position.

Very truly yours,

Littlestown Borough Council

Pius V. Pautenis, Jr.
President

Prepared by:

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Manager of Technical Services
Maryland Office

MDH:ch
cc: Richard E. Wright